ABSTRACT

A flux-cored wire for gas-shielded arc welding comprises a steel sheath, and a flux filled in the steel sheath. The flux-cored wire has a C content of 0.20% by mass or below, a Si content in the range of 0.06 to 1.10% by mass, a Mn content in the range of 0.55 to 1.60% by mass, a Cr content of 2.60% by mass or below, a Mo content in the range of 0.30 to 1.50% by mass, a Mg content in the range of 0.20 to 1.50% by mass, a N content in the range of 0.005 to 0.035% by mass and a B content in the range of 0.001 to 0.020% by mass on the basis of the total mass of the flux-cored wire. The flux has a TiO_2 content in the range of 4.2 to 8.2% by mass and a fluorine compound content in terms of F content in the range of 0.025 to 0.55% by mass on the basis of the total mass of the flux-cored wire, and the flux-cored wire has an Al content of 0.50% by mass or below, a Nb content of 0.015% by mass or below, and a V content of 0.015% by mass or below on the basis of the total mass of the flux-cored wire. The flux-cored wire forms a weld metal that is resistant to ferrite band maintains proper tensile strength and excellent toughness even if the weld metal is processed at high temperatures for a long time for PWHT. The flux-cored wire has satisfactory usability